



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,019	12/02/2004	Roberto Avallone	Q90911	2233
23373 7590 12/29/2006 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER HUGHES, DEANDRA M	
			ART UNIT	PAPER NUMBER
			3663	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/29/2006	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/500,019

Applicant(s)

AVALLONE ET AL.

Examiner

Deandra M. Hughes

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 8, 16-20 and 23 is/are pending in the application.
- 4a) Of the above claim(s) 5-7 and 10-15 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9, 21-22, and 25-34 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed 11/7/06 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-8 and 10-24 have been considered but are moot in view of the new ground(s) of rejection.

Please note that the grounds of rejection over Deguchi (US 6,452,721) has changed. The primary figure is now figure 12 and the pump has changed from #12 to #42.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claim 1-4 and 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Deguchi (US 6,452,721 published Sep. 17, 2002).

With regard to claim 1, Deguchi discloses an optical transmission system (fig. 12, col. 5, line 65) comprising:

- at least a first and a second terminal station, optically connected with each other by an optical link (transmission systems inherently have transmitters and receivers, which the Examiner considers to be the 1st and 2nd terminal stations);

Art Unit: 3663

- said first or said second terminal station being configured to send on said optical link at least a first optical signal having a first direction (col. 6, lines 21-22) said system further comprising:
 - o a first supervisory unit (col. 6, line 32 from an upstream repeater) associated to a device disposed along said optical link;
 - o said first supervisory unit being configured for generating a first supervisory signal (col. 6, line 32; from the upstream repeater);
 - o said first supervisory unit being further associated to at least one modulator that is configured to superimpose on said first optical signal said first supervisory signal (col. 6, lines 32-38; from the upstream repeater);
 - o and at least one pump source (#42) disposed along said optical link;
 - o said pump source being configured to send on said optical link a pump radiation in a second direction opposite to said first direction (pump #42 is a counter-propagating pump)
 - o and configured to cause Raman amplification of said first optical signal and of said first supervisory signal superimposed on said first optical signal (col. 6, lines 60-61).

With regard to claim 2, the supervisory signal operates the switch (#24; col. 6, line 41).

With regard to claim 3, the device is a repeater (col. 5, line 65) with at least one pump source (#12).

With regard to claim 4, the supervisory unit is associated with a pump source (col. 6, line 35).

With regard to claim 16, a photodetector is adapted to receive at least a portion of the 1st optical signal and transform it into an electrical signal (col. 6, line 24).

With regard to claim 17, the switches discriminate between the 1st and 2nd supervisory signals (col. 6, lines 20-26).

With regard to claim 18, the 2nd discriminated supervisory signal is fed to at least one modulator (col. 6, line 24).

With regard to claim 19, the 1st fiber is #8 and the 2nd fiber is the fiber between #12 and #10.

Claim Rejections - 35 USC § 103

5. Claims 8, 20, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deguchi (US 6,452,721 published Sep. 17, 2002) in view of Sekiya (US 6,839,162 filed Sep. 10, 2001).

With regard to claim 8, Deguchi does not specifically disclose that the modulator is a variable optical attenuator. However, Sekiya teaches supervisory signal modulation via a variable optical attenuator (fig. 6, #109; col. 28, lines 54-28). It would have been obvious to one of ordinary skill in the art (e.g. an optical engineer) at the time the invention was made to use a variable optical attenuator for signal modulation in the

Art Unit: 3663

device of Deguchi for the advantage of obtaining a predetermined output power, as is specifically taught by Sekiya (col. 29, line 14).

With regard to claim 20, Deguchi does not specifically disclose a second co-propagating pump source. However, Sekiya teaches a second co-propagating pump source (fig. 6, #123). It would have been obvious to one of ordinary skill in the art (e.g. an optical engineer) at the time the invention was made to use a second co-propagating pump source in the device of Deguchi for the advantage of obtaining a designated gain, as is specifically taught by Sekiya (col. 18, line 22).

With regard to claim 23, Deguchi does not specifically disclose a second photodetector. However, Sekiya teaches a second photodetector (fig. 6, #124). It would have been obvious to one of ordinary skill in the art (e.g. an optical engineer) at the time the invention was made to use a second photodetector for the advantage of automatic gain control (AGC) as is specifically taught by Sekiya (col. 16, lines 60-65).

Allowable Subject Matter

6. Claims 9, 21-22, and 25-34 are allowed.
7. Claim 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regard to claim 24, the prior art does not teach or make obvious a second photodetector and is CONFIGURED TO discriminate a fourth supervisory signal carried by a second optical signal. in conjunction with the other limitations of the claim.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claim 16 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/500,036. Although the conflicting claims are not identical, they are not patentably distinct from each other because the at least one device of claim 1 in the conflicting application 10/500,036 is the photodetector of claim 16 in the instant application. Photodetectors are well-known transducers in the art, that is, photodetectors convert optical signals to electrical signals. It would have been obvious to one of ordinary skill in the art (e.g. an optical engineer) at the time the invention was made to use a photodetector to convert optical signals to electrical signals for the advantage of transduction.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deandra M. Hughes whose telephone number is 571-272-6982. The examiner can normally be reached on M-F, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3663

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Deandra M Hughes
Primary Examiner
Art Unit 3663